Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

**Mole Conversions Practice Quiz**

*Last Year’s Honors Quiz*

*Show your work and draw a BOX around your final answer. Round to two decimal points. INCLUDE UNITS!*

1. Aspartame (C14H18N2O5) is an artificial sweetener that is 160 times sweeter than regular sugar. Each 12-ounce can of Diet Coke contains 0.2 grams of aspartame.
   1. How many molecules of aspartame are in each can of Diet Coke?
   2. Convert your answer to (a) into atoms of nitrogen.
2. Bjorn and Kelly recently competed against each other to find the most valuable treasures in Rock Creek Park. Bjorn found a 50-gram gold bracelet, and Kelly discovered a ring that contained 3 moles of platinum. Which discovery contains the most atoms?
3. Each of Nathan’s pins contains one gram of titanium, and he recently collected his one hundredth pin. How many atoms of titanium does he have in his collection?
4. Ciara’s latest piece of art is hanging in the Louvre! She drew a portrait of her BFF Pascale using fancy art pencils made of graphite (100% carbon). If her drawing contains 500 grams of carbon, how many moles of carbon did she use?
5. Khiya scored the game winning goal in yesterday’s lacrosse game. It was such a beautiful shot that Ms. Smith has decided to store the lacrosse ball in Washington Latin’s trophy cabinet. The ball is composed of 3.4 moles of rubber (C5H8). What is the mass of Khiya’s lacrosse ball?
6. Kenny’s favorite food is bubble gum, and five years from now he will be featured in the Guinness Book of World Records for blowing the biggest bubble in history! His bubble contained 4.19 moles of carbon dioxide gas. How many molecules of carbon dioxide did his bubble contain?
7. Every morning when Steven reads the newspaper, he ends up getting ink (containing linoleic acid, C18H32O2) all over his hands! How many oxygen atoms are in 3 moles of linoleic acid?



1. When Neville stays with Ms. Eggleston’s parents, he has a tendency to pee in their dog’s food bowl! Each time Neville pees, he releases 0.008 moles of urea (CH4N2O). Convert 0.008 moles of urea into molecules.